REMARKS/ARGUMENTS

This Amendment is submitted in response to the non-final Office Action dated April 12, 2006. Upon entry of this Amendment, Claims 1-115 will be pending in the present application for consideration.

No amendment or cancellation has been made to any of the previously pending Claims 1-89 in response to the April 12, 2006 Office Action.

Claims 90-115 have been newly added by this Amendment. These new claims are supported by, *inter alia*, Examples 7-9 of TABLE 3 and Par. [0066] of the specification of the present application. [1]

It is respectfully submitted that no new matter has been added by this Amendment. Favorable consideration and allowance of all of the pending claims in view of the following remarks are respectfully requested.

Applicants respectfully respond to the April 12, 2006 Office Action as follows:

Claim Rejections - 35 U.S.C. § 103:

In the April 12, 2006 Office Action, the Examiner rejected Claims 1-27, 31-59 and 63-85 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,821,184 to Haines et al. ("the '184 Patent") in view of U.S. Patent No. 5,588,977 to Pavlov et al. ("the '977 Patent"), or, alternatively, over '977 Patent in view of the '184 Patent. In addition, the Examiner rejected Claims 29-30, 60-62 and 86-89 under 35 U.S.C. § 103(a) as being unpatentable over the '184 and '977 Patents as applied to Claim 1, and further

[1] All paragraph numbers of the specification cited in this Amendment correspond to the paragraph numbers appearing in U.S. Patent Application Publication No. US 2005/0019542 A1 of the present application.

in view of U.S. Patent No. 5,069,960 to Fukumoto et al. ("the '960 Patent"). Applicants respectfully traverse these prior art rejections for the following reasons.

In support of her claim rejections, the Examiner relies on the '184 Patent. However, a foam glass article of the '184 Patent is directed to surface preparation including "sanding, rubbing and scraping a surface to clean, abrade, polish, etc. such a surface." ('184 Patent, Col. 1, lines 9-17; *see also* Abstract; Col. 1, lines 61-64). Neither its field of application nor its function as a tool for surface preparation as described by the '184 Patent is pertinent at all to the field or function of a building material to be used in building construction such as interior and exterior facades of buildings, to which the claimed invention of the present application is directed. (*See* Par. [0001] of the specification).

"In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446 (Fed. Cir. 1992); *see also* MPEP 2141.01(a). Since the '184 Patent does not meet any of those criteria, it is nonanalogous art for the purpose of analyzing the obviousness of the subject matter of the above-cited claims that the Examiner rejected. Accordingly, it is respectfully submitted that at least for the foregoing reason, the '184 Patent does not render any of the pending claims of the present application obvious under 35 U.S.C. § 103, either by itself or in combination.

There are additional independent reasons why all of the pending claims should be allowed over the cited prior art references. Claims 1-30, 31-62, 86-89 as well as newly

added Claims 90-115 require that, *inter alia*, the claimed foam glass tile comprise a closed pore outer skin on at least one side. In support of her claim rejections, the Examiner took the position in the April 12, 2006 Office Action that the '184 Patent "discloses that a pore of adhesive compound, thus a closed pore skin." (April 12, 2006 Office Action at 2). Applicants respectfully disagree for the following reason.

As noted above, the '184 Patent is directed to an article for preparing surfaces by, for example, sanding, rubbing and scraping. Naturally, this function requires that the working surface of the article be abrasive. In fact, the '184 Patent teaches that the outer layer of crust or glassy skin be removed from the foam glass product to expose an abrasive surface. (*See, e.g.*, '184 Patent, Col. 3, lines 34-37; Col. 6, lines 28-31; Col. 10, lines 44-46). In other words, the '184 Patent teaches away from forming a closed pore outer skin of a foam glass product.

The only instance when the '184 Patent suggests coating of an adhesive compound on a side of a foam glass product is in the context of production of a random orbital sander disk. (*See* '184 Patent, Example 11, Col. 8, lines 45-50). Here, the '184 Patent teaches that a hook-and-loop fabric system be applied to the adhesive compound so that the resulting foam glass product can be mounted onto an orbital sanding power tool. (*See id.*). Again, such teaching by the '184 Patent is not pertinent at all to a foam glass tile having a closed pore outer skin on at least one side as an interior or exterior façade of a building.

Nowhere in the '184 Patent is there any teaching or suggestion of forming a foam glass tile comprising a closed pore outer skin on at least one side. Rather, as noted

above, the '184 Patent teaches away from the forming of a closed pore outer skin on at least one side of a foam glass product. A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. MPEP 2141.02.VI. And it is improper to combine references where the references teach away from their combination. MPEP 2145.X.D.2. Accordingly, the '184 Patent cannot be combined with either the '977 Patent or the '960 Patent to render obvious the claimed foam glass tile comprising a closed pore outer skin on at least one side. It is respectfully submitted that based on the foregoing reason alone, the '184 Patent does not render any of Claims 1-30, 31-62, 86-89, and 90-115 obvious under 35 U.S.C. § 103, either by itself or in any combination.

Claims 1-30 require a foam glass tile having, *inter alia*, a density between 30 and 100 lb./cubic ft.; Claims 44-46 require a foam glass tile having, *inter alia*, a density of 40 lb./cubic ft. or greater; and Claims 63-89 require a foam glass tile having, *inter alia*, a density of 30 lb./cubic ft. or greater. To support her claim rejections, the Examiner also relies on the '977 Patent and takes the position that the '977 Patent discloses the foam glass tiles having a density of 64.427 lb/cubic ft. (converted from 1,000 kg/cubic m) and a compression strength of 8,700 lb/square ft. (converted from 60MPa). (*See* April 12, 2006 Office Action at 2). Applicants respectfully disagree for the following reason.

The '997 Patent discloses a foam glass product having a compression strength of 8,700 lb/square ft. (converted from 60MPa) in Example 22, but then discloses a foam glass product having a density of 64.427 lb/cubic ft. (converted from 1,000 kg/cubic m) in a completely different example, Example 41. According to the '997 Patent, the foam

glass product of Example 22 is based on the composition of Example 7 and is processed as in Examples 3 and 13, while the foam glass product of Example 41 is based on the composition of Example 4 and is processed differently from Example 22. In other words, the '977 Patent does not show a single foam glass example made from the same composition and same process that has both a density of over 60 lb./cubic ft. and a compression strength of over 8,000 lb./square inch.

Furthermore, the density of over 60 lb./cubic ft. (converted from 1,000 kg/cubic m) achieved by Example 41 of the '977 Patent or the density of over 30 lb./cubic ft. (converted from 500 kg/cubic m) achieved by Example 42 of the '977 Patent is the granule density of a foam glass material that undergoes the process of a "thermal shock." The thermal shock induced by pouring the material onto inert gas flow or water is the opposite of an annealing process which the foam glass tile of the present application typically undergoes. (*See* '977 Patent, Col. 14, lines 45-51 and 55-60). According to the '977 Patent, the foam glass material that undergoes the process of thermal shock acquires a hollow spherical shape, which is clearly not suitable for a tile to be used as interior or exterior facades of a building as the claimed foam glass tiles of the present application. Accordingly, it is respectfully submitted that Examples 41 and 42 of the '977 Patent that disclose a granule density of over 30 lb/cubic ft. do not render, either by themselves or in combination, the claimed foam glass tiles obvious.

Further to Applicant's earlier stated position that the '184 Patent is non-analogous art, it is also respectfully submitted that the teaching of the '184 Patent cannot be combined with that of the '977 Patent to render Claims 1-30 obvious. To establish a

prima facie case of obviousness, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine the reference teachings. MPEP 2143. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. MPEP 2143.01 (emphasis added).

Claims 1-30 require the claimed foam glass tile to have, *inter alia*, a density between 30 and 100 lb./cubic ft and a compression strength of 6,000 lb./square inch or greater. To support her claim rejections, the Examiner takes the position that the '184 Patent discloses a foam glass blocks having a density ranging up to 42.6 lb/cubic ft. (April 12, 2006 Office Action at 2). Example 17 of the '184 Patent teaches that a density of 42.6 lb./cubic ft. can be achieved by mixing together 456g (80%) of recycled container glass and 114g (20%) of calcium carbonate and following the procedure similar to that of Example 1 of the '184 Patent. (*See* '184 Patent, Col. 9, lines 57-62). As noted above, the Examiner also takes the position that the '977 Patent discloses a foam glass tile having a compression strength of 8,700 lb./square inch. However, as can be seen by comparing the relevant portions of the '184 Patent and the '977 Patent, Example 22 of the '977 Patent that discloses the compression strength of 8,700 lb./square inch is based on the composition and process that are completely different from those of Example 17 of the '184 Patent that achieves a density of 42.6 lb./cubic ft. There is simply no suggestion in either the '184 Patent or the '977 Patent that it is desirable or even technically possible to combine those two different examples from the two different

references to achieve both the density of up to 42.6 lb./cubic ft. and the compression strength of 8,700 lb./square inch in a single foam glass product. Accordingly, at least for the forgoing reason, the '184 Patent cannot be combined with the '977 Patent to render Claims 1-30 of the present application obvious.

Claims 31-62 require that the claimed foam glass tile have, *inter alia*, a weight of 10 lbs. or greater and a compression strength of 6,000 lb./square inch or greater. In the April 12, 2006 Office Action, the Examiner does not point to any portion of the prior art references she relies on as disclosing a foam glass tile having the claimed ranges of weight and compression strength together. In fact, none does. Accordingly, at least for the foregoing reason, it is respectfully submitted that none of the prior art references relied upon by the Examiner renders any of Claims 31-62 obvious.

Claims 63-89 require that the claimed foam glass tile have, *inter alia*, a compression strength of 12,500 lb./square inch or greater. In addition, new Claims 90-115 require that the claimed foam glass tile have, *inter alia*, a density of 50 lb./cubic ft. or greater and a compression strength of 10,000 lb./square inch or greater. Regardless of whether there is suggestion or motivation to combine the teachings of the '184 and the '977 Patents, which there isn't, neither reference relied upon by the Examiner discloses the claimed ranges of compression strength/density of a foam glass tile as required by Claims 63-115. As noted above, the '184 Patent discloses the density of only up to 42.6 lb./cubic ft., and the '977 Patent discloses the compression strength of only up to around 8,700 lb./square inch for a foam glass product. Accordingly, based on the

foregoing reason alone, neither the '184 Patent nor the '977 Patent renders any of Claims 63-115 obvious, either alone or in any combination.

Based on the foregoing reasons, Applicants respectfully submit that the '184 Patent, the '977 Patent, and the '960 Patent, either separately or in any combination, do not render any of the pending claims obvious. Hence, it is respectfully requested that the Examiner's rejection of Claims 1-27, 31-59 and 63-85 over the '184 Patent and the '977 Patent, and the Examiner's rejection of Claims 29-30, 60-62 and 86-89 over the '184 Patent, the '977 Patent, and the '960 Patent be withdrawn, and that all of the pending claims be allowed over the cited prior art.

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In view of the foregoing remarks, Applicants respectfully request that a timely Notice of Allowance with respect to all of the pending claims be issued in this case.

Included herewith are (1) a Petition for a Two Month Extension of Time and (2) a check in the amount of $950.00 to cover the fee for a two-month extension of time for response ($225.00) and the extra claims fees for one independent claim in excess of three (1 × $100.00) and 25 dependent claims in excess of twenty (25 × $25.00 = $625.00) for a small entity. No additional fees or extensions of time are believed to be due in connection with filing of this Amendment. However, authorization is given hereby to charge Deposit Account No. 01-1785 for any deficiency in fees necessary to preserve the pendency of the subject application, or to credit the same in case of overpayment.

Should the Examiner believe that a telephone discussion would be helpful to expedite prosecution, she is invited to call the undersigned attorney at any convenient time.

Respectfully submitted,

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